COTTON CHATS

DRAPER CORPORATION
HOPEDALE, MASSACHUSETTS

COTTON CHATS

TRADE-MARK REG. U.S. PAT. OFF.

DRAPER CORPORATION

HOPEDALE MASS.

No. 242. MAY, 1923

FLUTED CYLINDER WARPER REDUCES SLASHER WASTE

Efficiency of machinery is important in all manufacturing plants today.

Reduction in the waste of expensive raw material or partly manufactured product is one of the profitable methods of efficiency—a method constantly aimed at by the builders of improved machinery.

Inequality in length of warp yarn wound on the several different Warper beams used in a Slasher is the cause of a pronounced waste of good material.

To reduce this waste has been our aim ever since we began to make improved Warpers fifty years ago. Various improvements this aim has brought forth have registered the advance steps in this direction.

Two devices now available for our Warpers mark the climax.

The fluted cylinder for Warpers gives the nearest approach to absolutely accurate measurement of yarn on Warper beams of any device ever invented.

The Rhoades-Saulnier device, which automatically locks the Warper shipping mechanism when tripped through the action of the Warper Clock, prevents an

overrun of yarn on the beam when full yardage has been registered. This device acts only when the yardage has been attained for which the clock was set. It does not interfere with the starting of the Warper from stops due to broken yarn.

The fluted cylinder may be had on any of our Warpers that measure from the cylinder. The Rhoades-Saulnier device is a regular feature of all our new Warpers.

Both are manufactured under patents issued to us a few years ago. Both have been in use long enough for actual mill tests under all necessary conditions. This mill experience proves that they reduce the Slasher waste to the minimum.

REDUCING DEPTH OF THE WARPER

One of the important features of the improved modern Warper introduced by us many years ago was the eccentric cylinder drive, which allowed the beam to set farther into the machine. This made it possible to use larger beams, and by reducing the depth of the machine, facilitated the work of the warper-tender in tying in broken ends.

Further reduction in the depth of the machine came with our design of a Warper to measure yarn from the cylinder, which allowed us to eliminate the space taken up by the measuring roll.

These changes lightened the labors of the operator and increased the product of the machine.

ADVANTAGES OF CYLINDER MEASUREMENT

In spite of these benefits, the design and introduction of cylinder measurement was not primarily to reduce the depth of the Warper, but to prevent waste in slashing. To do this it is essential that Warper registering devices shall measure accurately and stop the machine when warp yarn of a predetermined length has been wound upon the Warper beam.

Registering devices were originally operated from a small measuring roll over which the warp threads ran.

A measuring roll must be light to work properly. It is only nine inches in circumference.

In some Warpers these measuring rolls are made of tin. If undersized, the desired circumference is secured by a coat of paint.

Our measuring rolls are made of brass. Besides making every effort to have them come to measure, we require a careful inspection before shipment, rejecting all rolls that do not scale to size—that is, within the allowed limits of a few thousandths of an inch.

Nevertheless inaccuracies occur; and more come with continued use of the roll.

Any inaccuracy in the original measuring roll or that has come to it during use is bound to appear in the final measurement every nine inches—one revolution of the roll.

The cylinder, when used for measuring, is turned to size. Such variations as occur are very small. They appear in the final measurement only every 40″ or so, according to the circumference of the cylinder.

With the measuring roll there is an inevitable slip in starting and stopping because the yarn cannot be drawn over the roll tight enough to prevent this.

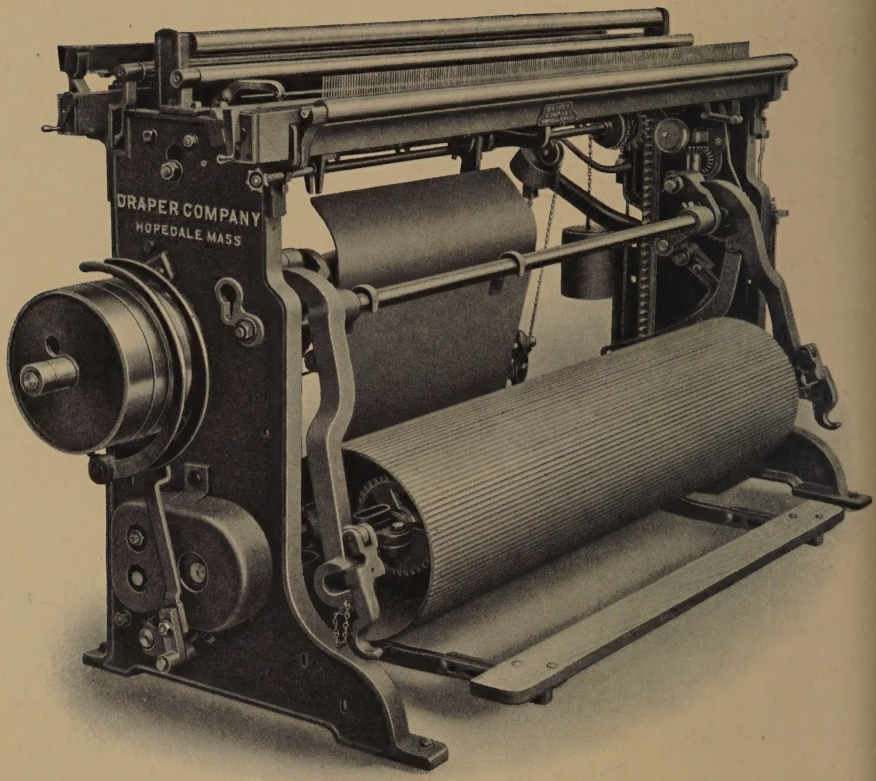
With cylinder measurement it was thought that the weight of the beam would prevent this slipping incident to starting and stopping. While we used the smooth cylinder the gain in this particular was not material.

The final step that eliminated practically all slip was the cylinder with fluted surface.

FLUTED CYLINDER A POSITIVE DRIVE

Cotton manufacturers generally know the accuracy of the fluted roll in other processes.

As applied to our Warper, the mass of yarn on the beam, being relatively yielding under the weight of the beam and its load, sinks into the longitudinal grooves on the cylinder, producing in effect a positive drive between the cylinder and the warp beam. This practically positive



G Model Warper with Fluted Cylinder

drive of the beam by the cylinder, which also drives the clock, makes it as nearly certain as possible that the number of yards registered and the actual length of the warp on the beam will be the same.

This is not mere theory. Experience under actual mill conditions on different kinds of yarn prove that cylinder measurement with the fluted cylinder and proper arm weights, combined with the Rhoades-Saulnier device, gives more nearly even warps on the beams than any other device ever made.

Equal measurement of yarn on the Warper beams reduces the amount of yarn wasted at the end of the Slasher run.